

**Family list**

**3** family member for:

**JP60108861**

Derived from 1 application.

**1 TONER FOR ELECTROSTATIC CHARGE IMAGE DEVELOPMENT**

Publication info: **JP1055451B B** - 1989-11-24

**JP1666867C C** - 1992-05-29

**JP60108861 A** - 1985-06-14

---

Data supplied from the **esp@cenet** database - Worldwide

**TONER FOR ELECTROSTATIC CHARGE IMAGE DEVELOPMENT**

**Patent number:** JP60108861  
**Publication date:** 1985-06-14  
**Inventor:** HARAKAWA KOUJI; SHIGEHIRO KIYOSHI; KASHIMA EIICHIROU; AMETANI SHINJI  
**Applicant:** TOMOEGAWA PAPER CO LTD  
**Classification:**  
- **international:** G03G9/087; G03G9/087; (IPC1-7): G03G9/08  
- **european:** G03G9/087B2B; G03G9/087B2B2; G03G9/087B6B  
**Application number:** JP19830216039 19831118  
**Priority number(s):** JP19830216039 19831118

Report a data error here

**Abstract of JP60108861**

**PURPOSE:**To control uniformly the charge polarity of toner particles to a negative polarity and to improve the stability and durability of the charge polarity by incorporating a binder resin, coloring material and styrene-maleic acid copolymer resin as a charge control agent in a toner.

**CONSTITUTION:**A binder resin, coloring material and a styrene-maleic acid copolymer resin as a charge control agent are incorporated in a toner. The styrene-maleic acid copolymer resin is, for example, the polymn. reaction system of styrene and maleic acid which are partly esterified by alkyl ether such as diethylene glycol monobutyl ether or the like. The resin having the constitutional formula shown by the formula is applied thereto. In the formula, n denotes the degree of polymn. and the resin having about 10,000-20,000wt average mol.wt. is used. Such styrene maleic acid copolymer resin is compounded at 0.1-50wt% by 100pts.wt. the binder resin. Polystyrene, styrene-acrylate copolymer, polyester resin, epoxy resin, etc. are usable independently or in combination as the binder resin. After the styrene-maleic acid copolymer resin is premixed with the binder resin and the coloring material, the mixture is subjected to ordinary melting, kneading, grinding and classifying by which the toner is formed.

---

Data supplied from the esp@cenet database - Worldwide